An Appendix including amended drawing figures is attached following page 18 of this paper.

REMARKS

The above-identified patent application has been amended and Applicant respectfully requests the Examiner to reconsider and again examine the claims as amended.

Claims 1-20 are pending in the application. Claims 1-20 are rejected. Claims 1, 8, and 15, are amended herein. Claims 21-23 are new.

FIGS. 2A, 4, and 6 are amended herein as described above.

The Rejections under 35 U.S.C. §112, Second Paragraph

The Examiner rejects Claims 19 and 20 under 35 U.S.C. §112, second paragraph. The Examiner asserts that "the scene graph data" recited in both Claims 19 and 20 had no antecedent basis.

Applicant has amended Claim 15 herein to provide antecedent basis. Thus, Applicant submits that Claims 19 and 20 are now proper under 35 U.S.C. §112, second paragraph.

In view of the above, Applicant submits that the rejection of Claims 19 and 20 under 35 U.S.C. §112, second paragraph, should be removed.

The Examiner also rejects Claims 15-20, asserting that the claims are incomplete as "omitting essential elements." The Examiner asserts that the omitted elements are "...generating the scene graph data and storing the scene graph data in a graphics module." However, Applicant respectfully points out that Claims 15-20 are apparatus claims, not method claims.

Claim 15 recites "...*a scene graph display command generator for generating a scene graph display command* associated with at least one two-dimensional object, the scene graph display command *adapted to be interpreted by a graphics circuit module*, resulting in at least one

two-dimensional image on the graphical display, wherein the at least one two-dimensional image is associated with the at least one two-dimensional object."

Thus, Applicants to do see the method steps recited by the Examiner as being essential to Applicant's apparatus claim.

In view of the above, Applicant submits that the rejection of Claims 15-20 under 35 U.S.C. §112, second paragraph, should be removed.

The Rejections under 35 U.S.C. §101

The Examiner rejects Claims 1-20 under 35 U.S.C. §101 as being directed to non-statutory subject matter.

With regard to Claims 1-7 the Examiner asserts that these claims claim steps of which a human is capable. Applicant has amended Claim 1 herein to recite, "A computer implemented method." Applicant has also amended Claim 15 herein to recite, "A computer implemented system." Thus, Applicant submits that amended Claims 1-7 and 15-20 are proper under 35 U.S.C. §101.

With regard to Claims 8-14, which recite "[a] computer program medium having computer readable code thereon," the Examiner asserts that "[t]hese claims do not claim having a computer or equivalent execute the computer readable code to perform the graphical display, thus, these claims do not claim a process or machine and the scope of these claim cover computer code written on paper... ." Applicant respectfully submits that Claims 8-14 represent statutory subject matter under In re Beauregard, 53 F.3d 1583, 35 USPQ2d 1383 (Fed. Cir. 1995).

According to Beauregard, Id., "[o]n August 4, 1994, the Board rejected Beauregard's computer program product claims on the basis of the printed matter doctrine. Beauregard appealed. The Commissioner now states 'that computer programs embodied in a tangible

medium, such as floppy diskettes, are patentable subject matter under 35 U.S.C. § 101 and must be examined under 35 U.S.C. §§ 102 and 103.' The Commissioner states that he agrees with Beauregard's position on appeal that the printed matter doctrine is not applicable. Thus, the parties are in agreement that no case or controversy presently exists."

In accordance with Beauregard, the Manual of Patent Examining Procedure at §2106(a) states:

> ...a claimed **computer-readable medium** encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.
>
> Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed **computer-readable medium** encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. Accordingly, it is important to distinguish claims that define descriptive material *per se* from claims that define statutory inventions. [emphasis added]

Thus, Applicant submits that Claims 8-14,which constitute so-called Beauregard claims, are proper under 35 U.S.C. §101.

In view of the above, Applicant submits that the rejection of Claims 1-20 under 35 U.S.C. §101 should be removed.

The Rejections under 35 U.S.C. §102(b)

The Examiner rejects Claims 1, 2, 6-9, 13-16, 19, and 20 under 35 U.S.C. §102(b) as being anticipated by an article entitled "Jazz: An Extensible Zoomable User Interface Graphics Toolkit," hereafter referred to as the Jazz article.

Applicant has amended Claims 1, 8, and 15 herein to recite a "...graphics circuit module... ."

Applicant submits that Claim 1 is patentably distinct over the Jazz article, since the cited reference neither describes nor suggests "... generating scene graph data, the scene graph data including at least one two-dimensional object, *the scene graph data adapted to be stored in a graphics circuit module capable of generating the graphical display*; and generating a scene graph display command associated with the at least one two-dimensional object, *the scene graph display command adapted to be interpreted by the graphics circuit module*, resulting in at least one two-dimensional image on the graphical display, wherein the at least one two-dimensional image is associated with the at least one two-dimensional object," as set forth in Claim 1.

With this particular arrangement, the present invention provides scene graph data adapted to be stored in and interpreted by *a graphics circuit module*. For example, the graphics circuit module can be a three-dimensional graphic card 38c (3DGC), described, for example, in conjunction with FIG. 2. Therefore, a computer central processing unit (CPU) (e.g., 38b, FIG. 2) is able to do other processing and is not devoted entirely to display generation.

In contrast, the Jazz article uses scene graphs to render two-dimensional objects on a computer display, but in an entirely different way than the present invention, without use of a graphics circuit module. The computer display in the Jazz article is rendered by the computer central processing unit (CPU). As a result, the rendering and general computer operation described by the Jazz article is necessarily much slower than that of the present invention.

The claimed arrangement, adapted to use the *graphics circuit module*, provides particular advantages. For example, as described at page 10, line 11-16:

> By using the scene graph system 30, 2D display images can be rapidly rendered. A 2D display rendering speed improvement of an order of magnitude can be realized compared to the system 10 of FIG. 1, which uses primitive "paint" display commands. That is, by having the scene graph 38d stored directly on the

> 3DGC 38c and by limiting the software commands to occasional "render" display commands, (and other display commands corresponding to scene graph updates), a performance increase on the order of an order of magnitude can be realized.

In contrast, the Jazz article states, at page 173, in the right hand column, "Jazz uses the Java2D renderer... ." As best understood by the Applicant, the Jazz software, in association with a scene graph, makes software calls to the conventional Java2D renderer. The software calls include so-called "paint" commands, which are described to be conventional in conjunction with FIG. 1 of the present application. Thus, from scene graph data, the Jazz article provides primitive paint commands, which are rendered directly on a computer graphics display *by a computer CPU*. The Jazz article neither describes nor suggests scene graph data adapted to be stored in a *graphics circuit module* resulting in the graphical display as claimed.

In view of the above, Applicant submits that Claim 1 is patentably distinct over the Jazz article.

Claims 2, 6, and 7 depend from and thus include the limitations of Claim 1. Thus, Applicant submits that Claims 2, 6, and 7 are patentably distinct over the cited reference at least for the reasons discussed above in conjunction with Claim 1.

For substantially the same reasons discussed above in conjunction with Claim 1, Applicant submits that Claim 8 is patentably distinct over the Jazz article, since the cited reference neither describes nor suggests "...instructions for generating scene graph data, the scene graph data including at least one two-dimensional object, *the scene graph data adapted to be stored in a graphics circuit module capable of generating the graphical display*; and instructions for generating a scene graph display command associated with the at least one two-dimensional object, *the scene graph display command adapted to be interpreted by the graphics circuit module*, resulting in at least one two-dimensional image on the graphical display, wherein the at least one two-dimensional image is associated with the at least one two-dimensional object.," as set forth in Claim 8.

Claims 9, 13, and 14 depend from and thus include the limitations of Claim 8. Thus, Applicant submits that Claims 9, 13, and 14 are patentably distinct over the cited reference at least for the reasons discussed above in conjunction with Claim 8.

For substantially the same reasons discussed above in conjunction with Claim 1, Applicant submits that Claim 15 is patentably distinct over the Jazz article, since the cited reference neither describes nor suggests "...a scene graph display command generator for generating a scene graph display command associated with the at least one two-dimensional object, *the scene graph display command adapted to be interpreted by a graphics circuit module*, resulting in at least one two-dimensional image on the graphical display, wherein the at least one two-dimensional image is associated with the at least one two-dimensional object," as set forth in Claim 15.

Claims 16, 19, and 20 depend from and thus include the limitations of Claim 15. Thus, Applicant submits that Claims 16, 19, and 20 are patentably distinct over the cited reference at least for the reasons discussed above in conjunction with Claim 15.

In view of the above, Applicant submits that the rejection of Claims 1, 2, 6-9, 13-16, 19, and 20 under 35 U.S.C. §102(b) should be removed.

The Rejections under 35 U.S.C. §103(a)

The Examiner rejects Claims 3-5, 10-12, 17, and 18 under 35 U.S.C. §103(a) as being unpatentable over the Jazz Article in view of Applicant's admission of the prior art. The Examiner recognizes that the Jazz article does not teach the claimed display images of aircraft and geographical features. The Examiner relies upon the Applicant's Background of the Invention as teaching display images of aircraft and geographical features. The Examiner concludes "[i]t would have been obvious to one of ordinary skill in the art at the time of the applicants invention to define aircraft and geographic images with 2D scene graphs... ."

As the Examiner is aware, and as found in MPEP §2142, in order to establish a prima facie case of obviousness "...the prior art reference (or prior art references when combined) must teach or suggest all the claim limitations." Applicant respectfully submits that the Examiner has not met this burden in order to establish prima facie obviousness.

Claims, 1, 8 and 15 are discussed above in view of the Jazz article. Applicant submits that the Background of the Invention section of the present patent application used by the Examiner fails to overcome the above deficiencies of the Jazz article. The Background of the Invention neither describes nor suggests use of a graphics circuit module used in conjunction with a scene graph to render two-dimensional objects.

Claims 3-5 depend from and thus include the limitations of Claim 1. Claims 10-12 depend from and thus include the limitations of Claim 8. Claims 17 and 18 depend from and thus include the limitations of Claim 15. Thus, Applicant submits that Claims 3-5, 10-12, 17, and 18 are patentably distinct over the cited references at least for the reasons discussed above in conjunction with Claims 1, 8, and 15.

In view of the above, Applicant submits that the rejection of Claims 3-5, 10-12, 17, and 18 under 35 U.S.C. §103(a) should be removed.

Claims 21-23 are new in the application. Support for new Claims 21-23 can be found in conjunction with FIG. 2. Consideration of new Claims 21-23 is respectfully requested.

In view of the above Amendment and Remarks, Applicant submits that Claims 1-23 and the entire case are in condition for allowance and should be sent to issue and such action is respectfully requested.

The Examiner is respectfully invited to telephone the undersigning attorney if there are any questions regarding this Amendment or this application.

The Assistant Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 500845, including but not limited to, any charges for extensions of time under 37 C.F.R. §1.136.

Respectfully submitted,

Dated: Sept 29, 2005

DALY, CROWLEY, MOFFORD & DURKEE, LLP

By: _____

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Attachments: Replacement Sheets for FIGS. 1-2A, 4, and 6 (3 sheets), and
Annotated Sheets Showing Changes for FIGS. 1-2A, 4, and 6 (3 sheets)

14886_2

Appendix:

FIGS. 1-2A, 4, and 6 shown as both Replacement Sheets and Annotated Sheets Showing Changes are attached.

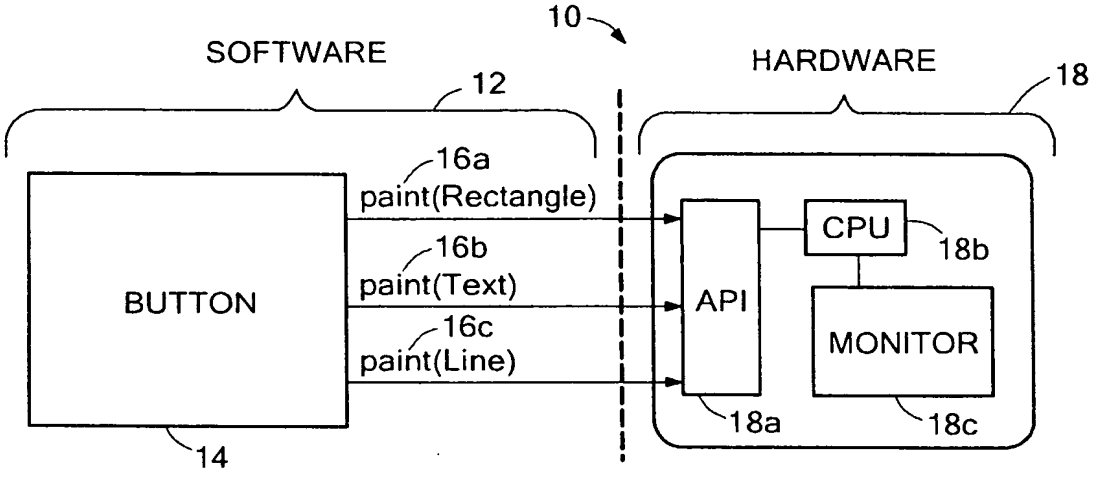

FIG. 1
(prior art)

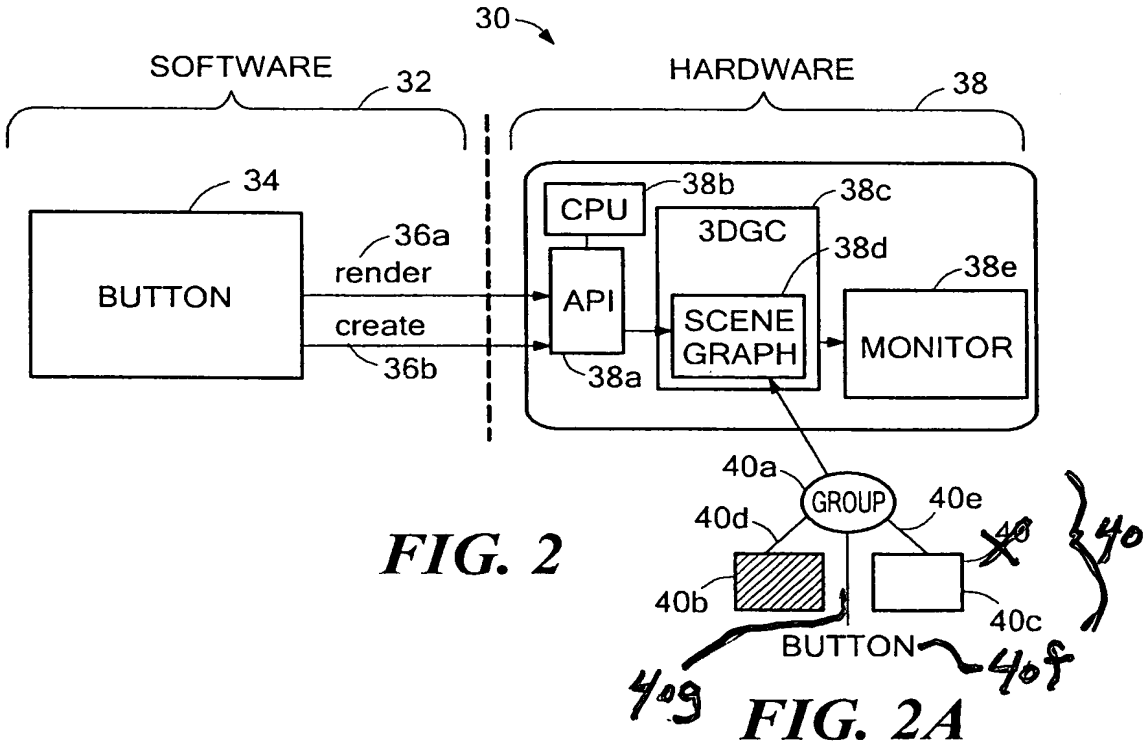

FIG. 2

FIG. 2A

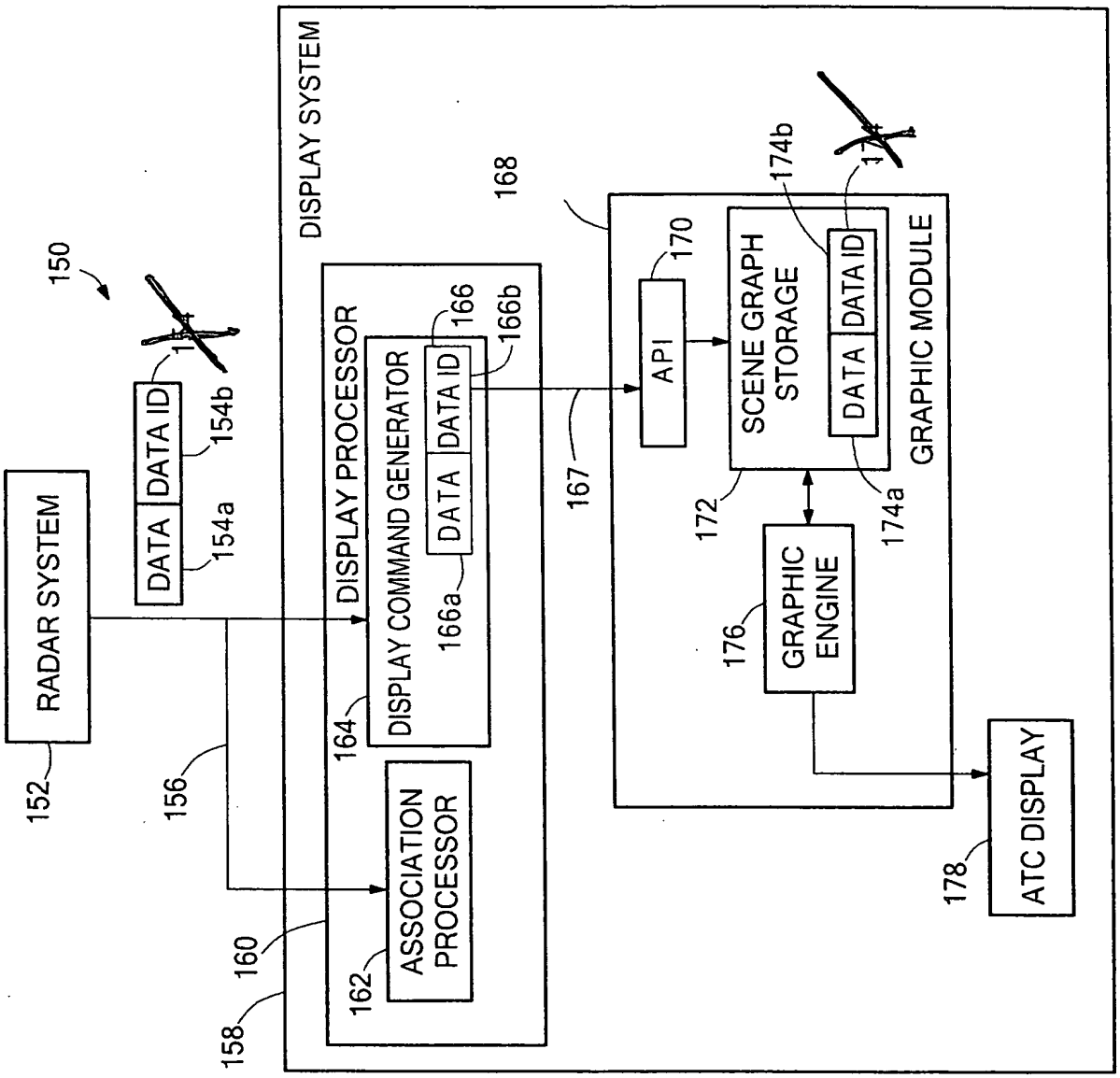
150
RADAR SYSTEM
152
DATA
DATA ID
154a
154b
156
158
160
DISPLAY SYSTEM
DISPLAY PROCESSOR
DISPLAY COMMAND GENERATOR
DATA
DATA ID
166a
166
166b
164
ASSOCIATION PROCESSOR
162
168
167
API
170
SCENE GRAPH STORAGE
DATA
DATA ID
172
174a
174b
GRAPHIC MODULE
GRAPHIC ENGINE
176
ATC DISPLAY
178

FIG. 4

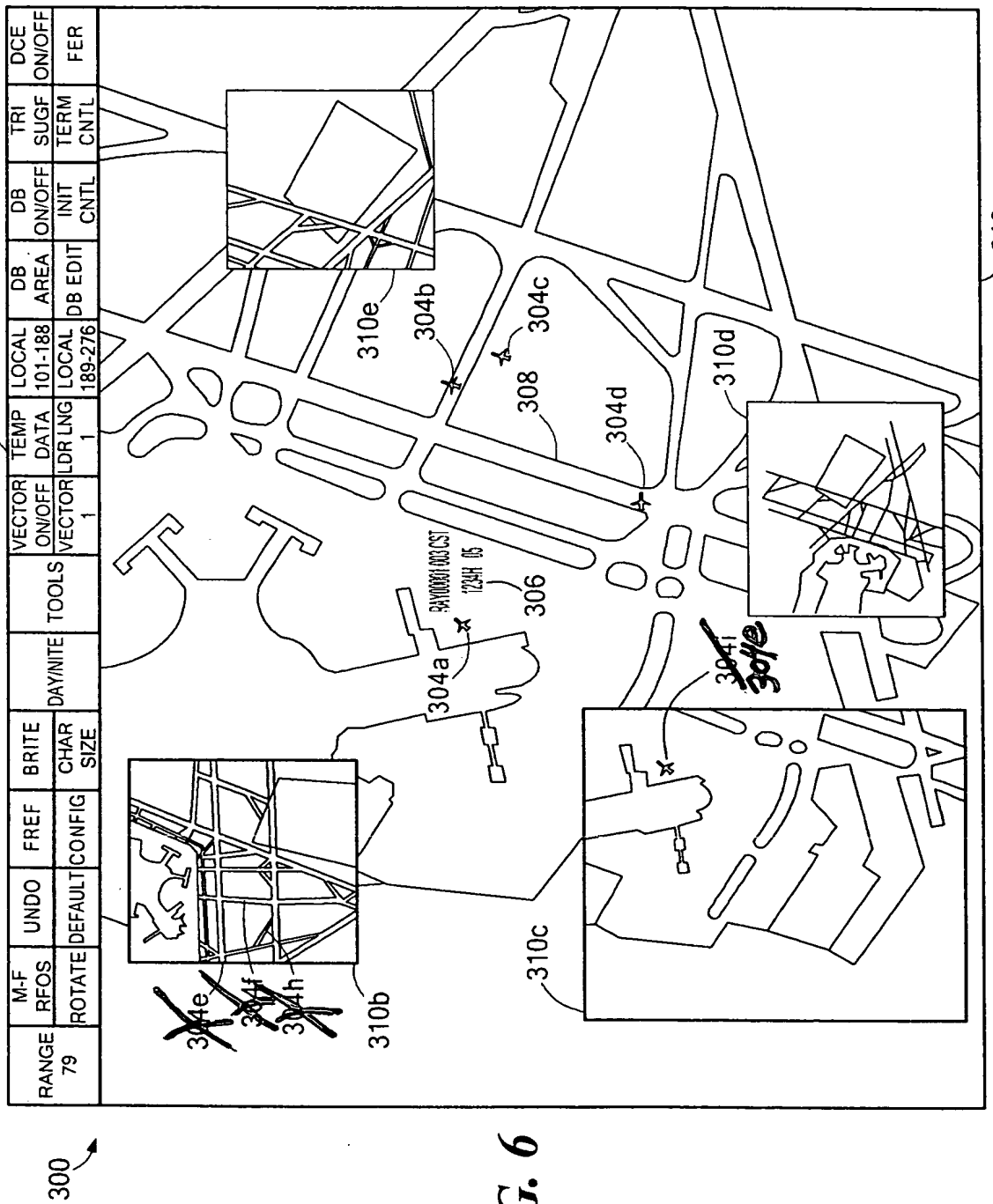
300
302
RANGE 79
M-F RFOS
ROTATE
UNDO
DEFAULT
FREF
CONFIG
BRITE
CHAR SIZE
DAY/NITE
TOOLS
VECTOR ON/OFF
VECTOR 1
TEMP DATA
LDR LNG 1
LOCAL 101-188
LOCAL 189-276
DB AREA
DB EDIT
DB ON/OFF
INIT CNTL
TRI SUGF
TERM CNTL
DCE ON/OFF
FER
310a
310b
310c
310d
310e
304a
304b
304c
304d
304e
304f
304g
304h
304i
306
308

FIG. 6